

WHAT IS CLAIMED IS:

1. A film formation method comprising the steps of:
forming a first film in a chamber by using a first gas;
5 installing a substrate into the chamber after forming the first film; and
 forming a second film over a surface of the substrate by using the first film
and a second gas.
2. A film formation method according to claim 1, wherein the second film
10 is formed at a pressure of 20 Pa or less.
3. A film formation method according to claim 1, wherein the second film
is formed over one selected from the group consisting of a glass substrate, a plastic
15 substrate, and an organic resin film.
4. A film formation method according to claim 1, wherein the first film is
formed by plasma CVD, and the second film is precipitated by sputtering.
5. A film formation method according to claim 1, wherein a
20 semiconductor device is manufactured by using the second film as a protective
 film of a semiconductor element.
6. A film formation method according to claim 1, wherein the
semiconductor element comprises at least one selected from the group consisting
25 of a thin film transistor, an organic thin film transistor, a thin film diode, a
 photoelectric conversion element, and a resistor.
7. A film formation method comprising the steps of:

forming a first film in a chamber by using a first gas;
installing a substrate into the chamber after forming the first film; and
forming a silicon nitride film over a surface of the substrate by using the
first film and a second gas.

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8. A film formation method according to claim 7, wherein the first gas
comprises a silicide gas and nitrogen.

9. A film formation method according to claim 7, wherein the second gas
10. comprises at least one selected from the group consisting of helium (He), neon
(Ne), argon (Ar), krypton (Kr), and xenon (Xe).

10. A film formation method according to claim 7, wherein the second
film is formed at a pressure of 20 Pa or less.

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11. A film formation method according to claim 7, wherein the second
film is formed over one selected from the group consisting of a glass substrate, a
plastic substrate, and an organic resin film.

20 12. A film formation method according to claim 7, wherein the first film is
formed by plasma CVD, and the second film is precipitated by sputtering.

25 13. A film formation method according to claim 8, wherein the silicide gas
comprises at least one selected from the group consisting of monosilane, disilane,
and trisilane.

14. A film formation method according to claim 7, wherein a
semiconductor device is manufactured by using the second film as a protective

film of a semiconductor element.

15. A film formation method according to claim 7, wherein the semiconductor element comprises at least one selected from the group consisting of a thin film transistor, an organic thin film transistor, a thin film diode, a photoelectric conversion element, and a resistor.

16. A film formation method comprising the steps of:
forming a first film in a chamber by using a first gas;
10 installing a substrate into the chamber after forming the first film; and
forming a silicon oxide film over a surface of the substrate by using the first film and a second gas.

17. A film formation method according to claim 16, wherein the first gas
15 comprises a silicide gas and oxygen.

18. A film formation method according to claim 16, wherein the second gas comprises at least one selected from the group consisting of helium (He), neon (Ne), argon (Ar), krypton (Kr), and xenon (Xe).

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19. A film formation method according to claim 16, wherein the second film is formed at a pressure of 20 Pa or less.

20. A film formation method according to claim 16, wherein the second
25 film is formed over one selected from the group consisting of a glass substrate, a plastic substrate, and an organic resin film.

21. A film formation method according to claim 16, wherein the first film

is formed by plasma CVD, and the second film is precipitated by sputtering.

22. A film formation method according to claim 17, wherein the silicide gas comprises at least one selected from the group consisting of monosilane, 5 disilane, and trisilane.

23. A film formation method according to claim 16, wherein a semiconductor device is manufactured by using the second film as a protective film of a semiconductor element.

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24. A film formation method according to claim 16, wherein the semiconductor element comprises at least one selected from the group consisting of a thin film transistor, an organic thin film transistor, a thin film diode, a photoelectric conversion element, and a resistor.

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25. A film formation method comprising the steps of:
forming a first film in a chamber by using a first gas;
installing a substrate into the chamber after forming the first film; and
forming a silicon oxynitride film over a surface of the substrate by using
20 the first film and a second gas.

26. A film formation method according to claim 25, wherein the first gas comprises a silicide gas, oxygen, and nitrogen.

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27. A film formation method according to claim 25, wherein the second gas comprises at least one selected from the group consisting of helium (He), neon (Ne), argon (Ar), krypton (Kr), and xenon (Xe).

28. A film formation method according to claim 25, wherein the second film is formed at a pressure of 20 Pa or less.

29. A film formation method according to claim 25, wherein the second film is formed over one selected from the group consisting of a glass substrate, a plastic substrate, and an organic resin film.

30. A film formation method according to claim 25, wherein the first film is formed by plasma CVD, and the second film is precipitated by sputtering.

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31. A film formation method according to claim 26, wherein the silicide gas comprises at least one selected from the group consisting of monosilane, disilane, and trisilane.

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32. A film formation method according to claim 25, wherein a semiconductor device is manufactured by using the second film as a protective film of a semiconductor element.

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33. A film formation method according to claim 25, wherein the semiconductor element comprises at least one selected from the group consisting of a thin film transistor, an organic thin film transistor, a thin film diode, a photoelectric conversion element, and a resistor.